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CUTTING DEVICE FOR FOOD  
[Schneidvorrichtung fuer Lebensmittel]

Hyeong-Jin Shin

UNITED STATE PATENT AND TRADEMARK OFFICE  
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| INVENTOR                      | (72) :  | SHIN, HYEONG-JIN                        |
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## Specification

This invention relates to a cutting device for food according to the preamble of the main claim. The cutting device as claimed in the invention is especially suited to harder foods, such as vegetables, potatoes and for fruit such as apples, pears and the like.

A cutting device according to the preamble of the main claim is known from DE-GM 73 09 240. In this device the holding devices in the feed shaft are used as pressing elements to press soft food such as meat or bacon against the blade. For this purpose they pivot down around an axle located on its bottom end and apply pressure to the food.

Vegetable cutting devices are also known which contain a feed shaft for the vegetable and a blade located on the bottom end of the feed shaft. The vegetable can tilt in the feed shaft during the cutting process so that the individual cut vegetable parts, for example for beans or other long vegetables, come out uneven. This is undesirable for optical reasons and also possibly different cooking conditions.

The object of this invention is to devise a cutting device for food which is especially suited for vegetables or fruit and in its feed shaft the food does not change its position so that in the cutting process the vegetable pieces are uniform.

As claimed in the invention, this object is achieved by a cutting device according to the preamble of the main claim by the features in the characterizing part of the main claim.

The gate located in the feed shaft can be folded by the force of a spring toward one wall of the feed shaft which forms the wall of the feed shaft which is the back wall in the direction of rotation. In this

way the gate is always pressed in the direction to this wall. If at this point a piece of vegetable is inserted into the feed shaft, the gate is pressed down and away and no longer presses against the wall of the feed shaft, but against the piece of vegetable. In this way the piece of vegetable during the cutting process in guidance down toward the blade is held in its position without being able to move laterally.

In this way a uniform cut is achieved even for long pieces of vegetable, for example beans, . . . [Translator's note: line omitted] types of fruit such as bananas, pears, mangoes, in which . . . [Translator's note: line omitted] positioning is cut. In this connection the gate must be arranged such that it is pressed by the spring force in the direction to the wall of the feed shaft, which wall is the rear one in the direction of rotation of the blade.

This is preferably accomplished by the pivoting axis of the gate being located exactly on the wall which is opposite the wall which is the rear one in the direction of rotation of the blade. Small deviations however do not adversely affect the action to any degree.

In order to ensure good matching of the gate even in the pressed-down state to the walls of the feed shaft, the gate is made preferably made shovel-shaped in the shape of a flat U in cross section perpendicular to its lengthwise extension. In this way, centering of the inserted food in the feed shaft is facilitated.

The gate is preferably in its rest position, i.e. in its state pressed against the wall of the feed shaft by the spring force at an angle of roughly 20 to 60° to the plane of the blade which is located on the bottom end of the feed shaft.

The feed shaft with its lengthwise axis is generally perpendicular to the cutting plane of the blade. Its cross section can be round or square, for example circular or oval. Especially preferably the cross section of the feed shaft is made roughly egg-shaped, the tip of the egg representing the wall of the feed shaft which is the rear wall with respect to the direction of rotation of the blade.

The blade can be of any type, such as for example a rotary blade, swinging blade, oblique blade and the like. Preferably a disk-shaped cutting blade is used which consists of a slotted round disk, over the slots of which two, three or four blades are located. These blades are contained in conventional vegetable cutters.

To press the food down against the blade, conventional pressing elements can be used, as are also used in known vegetable cutters.

The invention is detailed below by way of example using the description of the figures.

Figure 1 shows the arrangement of the blade, feed shaft and gate from overhead with the upper housing part omitted and without the drive;

Figure 2 shows a section through the cutting device from the side;

Figure 3 shows a section through the gate along the cutting line III-III of Fig. 1.

In Fig. 1 the arrangement of the blade, feed shaft, and gate is shown from overhead, for clarity the drive and upper housing cover being omitted.

The blade consists of a circular disk blade on which two blade edges 28 are seated. Underneath the blade edges 28 in the blade 14 there are slots through which the cut material can drop and emerge

through the lower exit opening 32 of the feed shaft 10. The blade 14 can pivot around an axle 16 and is driven by a drive 30 in the direction of rotation.

The feed shaft 10 is located on the housing such that the edges 28 of the blade 14 run through . . . [Translator's note: line omitted] under the feed shaft 10. Material to be cut which has been inserted into the feed shaft 10, thus hits the blade edges . . . [Translator's note: line omitted]. In the feed shaft 10, the gate 20 is arranged to be able to pivot around a pivoting axle 22, its being actuated by a spring 24 which pushes the gate up around its pivoting axle 22 which is located at its highest point. Actuating the spring 24 presses, the gate 20 against one part 12 of the wall of the feed shaft 10, which is farthest to the rear in the direction of rotation D of the blade 14. The cutting force of the blade 14 presses the material to be cut which is located in the feed shaft 10 against the back wall 12. Tilting of the material to be cut is prevented by a spring-loaded gate 20 which presses the material to be cut against the back wall 12.

The gate 20 is shown in Fig. 3 in a section which lies along the cutting line III-III of Fig. 1. The gate 20 in this section has the shape of a flat U, by which it acquires the shape of a shovel. In this way, the material to be cut is effectively prevented from falling out of the gate 20.

Deviations from the embodiments shown in the figures are possible. Thus the housing of the cutting device can contain several feed shafts (10) with gates (20) which are located above the blade 14. Material to be cut with very different sizes can be processed with feed shafts of different widths and gates adapted accordingly.

## Claims

1. Cutting device for food, especially vegetables or the like, with a feed shaft (10) which has a feed opening (18) for the food and a holding device located in it and a blade (14) which is located on the end (26) of the feed shaft (10) opposite the feed opening (18) and which rotates in one direction (D) of rotation around an axle (16) which is parallel to the extension of the feed shaft (10), characterized in that the holding device is made as a gate (20) which can be folded around a pivoting axis (22) and that the force of a spring (24) moves the gate (20) in the closing direction in the direction to the wall (12) of the feed shaft (10) which is the rear wall with respect to the direction (D) of rotation of the blade (14).

2. Cutting device as claimed in Claim 1, wherein the pivoting axis (22) is located on the wall of the feed shaft (19) opposite the back wall (12).

3. Cutting device as claimed in Claim 1, wherein the gate (20) in cross section is made shovel-shaped perpendicular to its lengthwise extension in the shape of a flat U.

4. Cutting device as claimed in Claim 1, wherein the gate (20) in its rest position adjoining the wall (22) is at an angle of roughly 20 to 60° to the plane of the blade (14).

5. Cutting device as claimed in Claim 1, wherein the blade (14) is made in the form of a round disk with attached blade edges (28).

6. Cutting device as claimed in Claim 1, wherein the feed shaft (10) has a roughly egg-shaped cross section.

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2 pages of drawings attached  
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Fig. 1

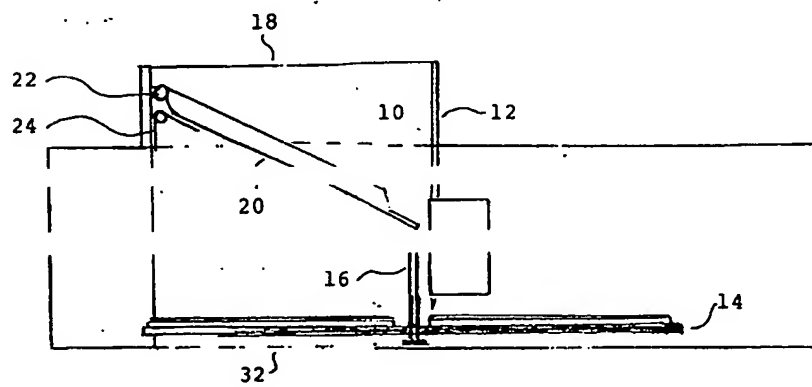
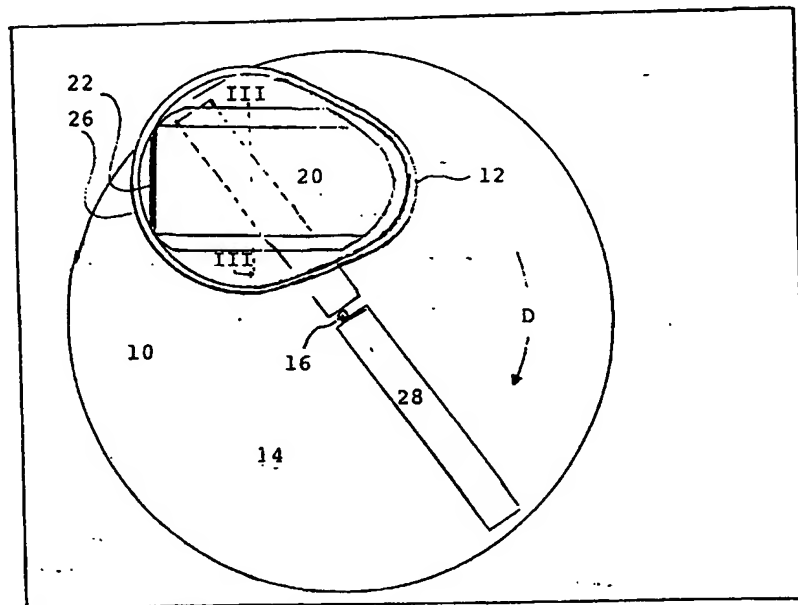


Fig. 2



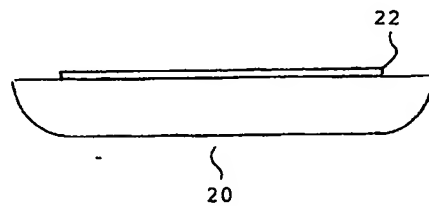


Fig. 3